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THE YOUNGER THE BETTER? CLINICAL CHARACTERISTICS AND IN-HOSPITAL OUTCOMES OF PERCUTANEOUS CORONARY INTERVENTION PROCEDURES PERFORMED IN PATIENTS 45 YEARS OLD OR YOUNGER

Poster Contributions
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Background: Although coronary artery disease (CAD) is commonly associated with advanced age, it is not an unusual finding in young patients. Specific data regarding the clinical presentation and outcome of percutaneous coronary interventions (PCI) performed in this selected population is currently lacking.

Methods: We assessed the clinical characteristics and outcome of patients undergoing PCI in the State of Michigan between 2010-2013 and compared the young patients (≤ 45 years of age) versus the remaining population.

Results: Our study population comprised of 128,211 patients, 7014 (5.5%) of whom were young. The mean age of the young patients was 40.75 ± 4.10 years compared with 66.34 ± 10.80 years for the older ones. The younger patients were more likely to be male (72.2 % versus 66%, $p < 0.001$), black (17.6% versus 11%, $p < 0.001$), smokers (61.6% versus 27.6%, $p < 0.001$) and to have a family history of premature coronary artery disease (32.3% versus 18.9%, $p < 0.001$), while they were less likely to have prior diagnosis of hypertension (69.9% versus 86.3%, $p < 0.001$), dyslipidemia (68.2% versus 83.5%, $p < 0.001$) or diabetes mellitus (29.2% versus 38.6%, $p < 0.001$). They were more likely to present with an acute myocardial infarction, either ST-Segment Elevation Myocardial Infarction (STEMI) (29.8% versus 15.1%, $p < 0.001$) or Non-ST-Segment Elevation Myocardial Infarction (NSTEMI) (25.9% versus 20.4%, $p < 0.001$), or with cardiac arrest (3.1% versus 1.8%, $p < 0.001$), although the subsequent in-hospital clinical course was favourable with a lower incidence of death (0.9% versus 1.5%, $p < 0.001$) and need for transfusion (1.7% versus 3.2%, $p < 0.001$), with a trend toward lower incidence of bleeding events and stroke and no difference in need for dialysis treatment.

Conclusion: Young patients who undergo PCI are more likely to be smokers and to have a strong family history of premature CAD and they are more likely to present in an acute setting with myocardial infarction, either STEMI or NSTEMI, although their in-hospital outcome appears to be favourable. This indicates the need to target the young with the delineated features in order to prevent the onset, or allow early detection, of CAD in this selected population.